RESPONSIBLE AGENCY: **COVER SHEET**

U.S. Department of Energy, Richland Operations Office

TITLE:

Final Hanford Site Solid (Radioactive and Hazardous) Waste Program Environmental Impact Statement, Richland, Benton County, Washington (DOE/EIS-0286F)

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ABSTRACT:

The Hanford Site Solid (Radioactive and Hazardous) Waste Program Environmental Impact Statement (HSW EIS) provides environmental and technical information concerning U.S. Department of Energy (DOE) proposed waste management practices at the Hanford Site. The HSW EIS updates analyses of environmental consequences from previous documents and provides evaluations for activities that may be implemented consistent with the Waste Management Programmatic Environmental Impact Statement (WM PEIS) Records of Decision (RODs). Waste types considered in the HSW EIS include operational low-level radioactive waste (LLW), mixed low-level waste (MLLW), immobilized low-activity waste (ILAW), and transuranic (TRU) waste (including TRU mixed waste). MLLW contains chemically hazardous components in addition to radionuclides. Alternatives for management of these wastes at the Hanford Site, including the alternative of No Action, are analyzed in detail. The LLW, MLLW, and TRU waste alternatives are evaluated for a range of waste volumes, representing quantities of waste that could be managed at the Hanford Site. A single maximum forecast volume is evaluated for ILAW. The No Action Alternative considers continuation of ongoing waste management practices at the Hanford Site and ceasing some operations when the limits of existing capabilities are reached. The No Action Alternative provides for continued storage of some waste types. The other alternatives evaluate expanded waste management practices including treatment and disposal of most wastes. The potential environmental consequences of the alternatives are generally similar. The major differences occur with respect to the consequences of disposal versus continued storage and with respect to the range of waste volumes managed under the alternatives. DOE's preferred alternative is to dispose of LLW, MLLW, and ILAW in a single, modular, lined facility near PUREX on Hanford's Central Plateau; to treat MLLW using a combination of onsite and offsite facilities; and to certify TRU waste onsite using a combination of existing, upgraded, and mobile facilities. DOE issued the Notice of Intent to prepare the HSW EIS on October 27, 1997, and held public meetings during the scoping period that extended through January 30, 1998. In April 2002, DOE issued the initial draft of the EIS. During the public comment period that extended from May through August 2002, DOE received numerous comments from regulators, tribal nations, and other stakeholders. In March 2003, DOE issued a revised draft of the HSW EIS to address those comments, and to incorporate disposal of ILAW and other alternatives that had been under consideration since the first draft was published. Comments on the revised draft were received from April 11 through June 11, 2003. This final EIS responds to comments on the revised draft and includes updated analyses to incorporate information developed since the revised draft was published. DOE will publish the ROD(s) in the *Federal Register* no sooner than 30 days after publication of the Environmental Protection Agency's Notice of Availability of the final HSW EIS.

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Acronyms/Abbreviations

AEA	Atomic Energy Act
APL	Accelerated Process Line
BRMaP	Biological Resources Management Plan
BRMiS	Biological Resource Mitigation Strategy
C3T	Cleanup, Constraints and Challenges Team
CAS	Critical Abstract Service
CEDE	committed effective dose equivalent
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CH	contact-handled
Ci	curie(s)
Cl	chlorine
COPC	chemicals of potential concern
CRCIA	Columbia River Comprehensive Impact Assessment
CRD	Comment Response Document
CRK	Columbia River Keeper
CTUIR	Confederated Tribes of the Umatilla Indian Reservation
CWC	Central Waste Complex
DBA	design basis accident
DCG	derived concentration guides
DEIS	Draft Environmental Impact Statement
DOE	U.S. Department of Energy
DOE-RL	U.S. Department of Energy – Richland Operations Office
DOT	U.S. Department of Transportation
DST	double-shelled tank
ECEM	Ecological Contaminant Exposure Model (computer code)
EDE	effective dose equivalent
EIS	environmental impact statement
ER	environmental restoration
ERDF	Environmental Restoration Disposal Facility
ERPG	Emergency Response Planning Guidelines
ERWM	environmental restoration waste management
FPA	facility performance assessment
FEIS	final environmental impact statement
FGR 13	Federal Guidance Report 13
FH	Fluor Hanford
FR	Federal Register
FWS	U.S. Fish and Wildlife Service
FY	fiscal year
GAP	Government Accountability Project

HAB	Hanford Advisory Board
HFFACO	Hanford Federal Facility Agreement and Consent Order (also known as the Tri-Party Agreement {TPA})
Hg	mercury
HIC	high-integrity container
HLW	high-level waste
HPMP	Hanford Performance Management Plan
HRCQ	highway route controlled quantities
HSER	Hanford Site Environmental Report
HSRAM	Hanford Site Risk Assessment Methodology
HSSWAC	Hanford Site Solid Waste Acceptance Criteria
HSW EIS	Hanford Solid Waste Environmental Impact Statement
HUMAN	refers to human health impacts (computer code)
HWY	highway
I	interstate
ILAW	immobilized low-activity waste
ILCR	incidental latent cancer risk
IMAP	Integrated Mission Acceleration Plan
IRIS	Integrated Risk Information System
IUPAC	International Union of Pure and Applied Chemistry
K_d	distribution coefficient for partitioning of contaminants in soil
Kg	kilogram
km	kilometer
LAW	low-activity waste
LDR	land disposal restrictions
LETF	Liquid Effluent Treatment Facility
LLBG	low level burial grounds
LLW	low-level waste
LLWMA	low-level Waste Management Area
LOEC	lowest observed effects concentration
LTS	long-term stewardship
MCi	megacuries (pertains to a measure of radiation)
MCL	maximum contaminant level
MLLW	mixed low-level waste
mrem	millirem
MS	Multiple Sclerosis
MTCA	Model Toxics Control Act
MW	mixed waste
NEHRP	National Earthquake Hazard Reduction Program
NEPA	National Environmental Policy Act
NIOSH	National Institute for Occupational Safety and Health
NM	New Mexico
NMFS	National Marine Fisheries Service
NOD	Notice of Deficiency

NOEC	no observed effects concentration
NORAD	North American Air Defense Command
Np	neptunium
NPL	National Priority List
NPR	National Public Radio
NPT	Nez Perce Tribe
NTS	Nevada Test Site
NW	Northwest
ODOT	Oregon Department of Transportation
OR	Oregon
ORP	Office of River Protection
OSHA	Occupational Safety and Health Administration
Pa	protactinium
PA	performance assessment
PCB	polychlorinated biphenyl
pCi	picocurie(s) (pertains to a measure of radiation)
PEIS	programmatic environmental impact statement
PHS	priority habitat species
PMP	program management plan
PNNL	Pacific Northwest National Laboratory
PUREX	Plutonium-Uranium Extraction Facility
RCRA	Resource Conservation Recovery Act
RCW	Revised Code of Washington
REAC/TS	Radiological Emergency Assistance Center/Training Site
RH	remote-handled
RHSW EIS	Revised Hanford Solid Waste Environmental Impact Statement
ROD	Record of Decision
SAC	System Assessment Capability
Se	selenium
SEIS	supplemental environmental impact statement
SEPA	State Environmental Policy Act
SST	single-shelled tank
Tc	technetium
TNC	The Nature Conservancy
TPA	Tri-Party Agreement
TRU	transuranic
TRUM	transuranic mixed (waste)
TRUPACT	transuranic package transporter
TSD	treatment, storage and disposal
TWRS	Tank Waste Remediation System
U	uranium
USDOE	U.S. Department of Energy
WA	Washington
WAC	Washington Administrative Code

WIPP	Waste Isolation Pilot Plant
WM PEIS	Waste Management Programmatic Environmental Impact Statement
WRAP	Waste Receiving and Processing Facility
WSDFW	Washington State Department of Fish and Wildlife
WTP	Waste Treatment Plant
YN	Yakama Nation